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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,697	02/27/2004	Gerald Pepper	1004-P03072US	9298
33356	7590	07/25/2005	EXAMINER	
SoCAL IP LAW GROUP LLP 310 N. WESTLAKE BLVD. STE 120 WESTLAKE VILLAGE, CA 91362			LE, JOHN H	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/789,697

Applicant(s)

PEPPER, GERALD

Examiner

John H. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 16-22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07/12, 12/20
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 07/12/2004 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because reference number 2 and reference number 3 in Non Patent Literature Documents do not have date. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Specification

2. The abstract of the disclosure is objected to because of the form and legal phraseology often used in patent claims, such as "comprises" (line 3) should be avoided.

Claim Objections

3. Claims 1, 4, 11, 16-17, 19-22 are objected to because of the following informalities:

Claim 1, line 5, after "communication standard", insert --;--, line 7, after "communication standard", insert --; and --.

Claim 4, line 2, "SF1-5" should change to --Serdes Frammer Interface Level 5 (SF1-5)--.

Claim 11, line 2, "SF1-5" should change to --Serdes Frammer Interface Level 5 (SF1-5)--.

Claim 16, line 3, after "lane counter", insert --;--, line 4, after "lane counter", insert --; --, line 5, after "lane counter", insert --;--, line 7, after "test seed", insert --;--, line 8, after "test pattern", insert --;--, line 10, after "generated pattern", insert --; and --, line 11, after "test pattern", insert --.--.

Claim 17, line 2, after "lane counter", insert --;--, line 3, after "lane counter", insert --; --, line 4, after "test pattern", insert --;--, line 6, after "test pattern", insert --; --, line 8, after "lane counter", insert --;--.

Claim 19, line 3, after "lane counter", insert --;--, line 4, after "incoming data", insert --; --, line 5, after "incoming data", insert --;--, line 6, after "lane counter", insert --;--, line 8, after "anticipated pattern", insert --;--, line 9, after "incoming data", insert --; and --, line 12, after "comparing", insert --.--.

Claims 20-22, please check and insert --;-- and --.-- as above.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 8, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. (USP 6,031,847) in view of Kim et al. (US 2003/0219040).

Regarding claims 1, 8, 14, Collins et al. teach a testing system to test whether a device under test (e.g. Col.6, lines 12-25) conforms to a physical layer communications standard (e.g. 45-58), computer coupled to the testing system (e.g. Fig.14).

Collins et al. fail to teach the testing system having a plurality of lane cards to transmit data on a plurality of data lanes to the device under test according to the physical layer communications standard; a deskew card to prepare deskew information independent of the lane cards according to the physical layer communications standard.

Kim et al. teach an apparatus having a means for transmit data on a plurality of data lanes according to the physical layer communications standard; a deskew block (400) to prepare deskew information independent according to the physical layer communications standard (e.g. [0002], [0030]-[0035], [0088]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a having a means for transmit data on a plurality of data lanes according to the physical layer communications standard; a deskew block (400) to prepare deskew information independent according to the physical layer communications standard as taught by Kim et al. in a testing system of Collins for the purpose of providing an apparatus, a method and a storage medium for carrying out a deskew among multiple lanes for use in a division transmission of large-capacity data, (Kim et al., [0020]).

6. Claims 2-7, 9-13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. (USP 6,031,847) in view of Kim et al. (US 2003/0219040) as applied to claims 1 and 8 above, and further in view of Goyal et al. (US 2004/017291).

Regarding claims 2-6 and 9-13, the combination of Collins et al. and Kim et al., discussed supra, disclose the claimed invention except the testing system is further to generate arbitrarily long test patterns on the data lanes, generate test patterns on each of the data lanes independent of the other data lanes, the physical layer communications standard is the SFI-5 standard, each transmit data on two data lanes, the lane cards each include two lane Field Programmable Gate Arrays, and software control testing.

Goyal et al. teach the testing system is further to generate arbitrarily long test patterns on the data lanes, generate test patterns on each of the data lanes independent of the other data lanes (e.g. Fig.6), the physical layer communications standard is the SFI-5 standard (e.g. [0003], [0019]), each transmit data on two data lanes, the lane cards each include two lane Field Programmable Gate Arrays (e.g. [0007]), software control testing (e.g. [0033]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include arbitrarily long test patterns on the data lanes, generate test patterns on each of the data lanes independent of the other data lanes, the physical layer communications standard is the SFI-5 standard, each transmit data on two data lanes, the lane cards each include two lane Field Programmable Gate Arrays, software control testing as taught by Goyal et al. in a testing system of Collins in view of Kim et

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al. for the purpose of providing a solution that enables interface conversion verification with a single chip and improves problem isolation (Goyal et al., [0008]).

Allowable Subject Matter

7. Claims 16-22 have been objected to as containing informalities, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 16, none of the prior art of record teaches or suggests the combination of a method for transmitting test data according to a physical layer communications standard comprising: starting a lane counter selecting a selected test pattern based on the lane counter; selecting a pattern seed based on the selecting and the lane counter; generating a current generated test pattern based on the pattern seed and the selected test seed; transmitting the current generated test pattern; generating a next generated test pattern based on the selected test pattern and the current generated pattern; and storing the next generated test pattern. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 19, none of the prior art of record teaches or suggests the combination of a method for receiving test data according to a physical layer communications standard comprising: starting a lane counter receiving incoming data; synchronizing the incoming data selecting a test pattern based on a value of the lane counter; evaluating whether to use the incoming data or a stored next generated pattern to generate an anticipated pattern; generating an anticipated pattern based on the evaluating and the test pattern; comparing the generated

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anticipated pattern with the incoming data; flagging an error condition if the generated anticipated pattern and the incoming data do match based on the comparing. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 21, none of the prior art of record teaches or suggests the combination of a transmitter circuit to transmit deskew data conforming to a physical layer communications standard, the transmitter circuit comprising: a lane counter coupled to a pattern select unit a pattern seed unit, and a current pattern unit, the lane counter to provide a lane value from 0 to 16 and to increment the lane value from 0 to 16; the pattern select unit to select a pattern based on the lane value and to provide a selected pattern to the pattern seed unit, a current pattern generation unit and a next pattern generation unit; the current pattern unit to store a next generated pattern generated by the next pattern generation unit as a stored current pattern, and to receive the lane value from the lane counter; the pattern seed unit to provide a pattern seed to a first mux based on the selected pattern and the lane value; the first mux to select between the pattern seed received from the pattern seed unit and the stored current pattern received from the current pattern unit, and to provide input to the current pattern generation unit; the current pattern unit to generate a current generated pattern based on input received from the first mux and the selected pattern; the next pattern generation unit to generate the next generated pattern based on the current generated pattern and the selected pattern; and a second mux to select between transmitting a header or the current generated pattern based on the lane value. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 22, none of the prior art of record teaches or suggests the combination of a receiver circuit to receive deskew data transmitted according to a physical layer communications standard, the receiver circuit comprising: a receive line to receive incoming data, the receive line coupled to a frame synchronization unit and a compare unit; the frame synchronization unit to identify a data location in the incoming data, and to provide the data location to a lane counter and a pattern state machine; a lane counter to provide a lane value and to increment the lane value from 0 to 16, the lane counter to provide the lane value to a pattern select unit, a current pattern unit, and the pattern state machine; the pattern select unit to select a selected pattern based on the lane value and to provide the selected pattern to an anticipated pattern generation unit and a next pattern generation unit; the current pattern unit to receive a next generated pattern from the next pattern generation unit and store the next generated pattern as a current pattern, the current pattern unit to provide the current pattern to a mux based on the lane value; the mux to select between the current pattern and the incoming data based on an output from the pattern state machine; and the compare unit to evaluate whether the incoming data corresponds to the anticipated generated pattern, and to provide a result and the incoming data to the pattern state machine. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John H Le whose telephone number is 571-272-2275. The examiner can normally be reached on 8:00 - 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

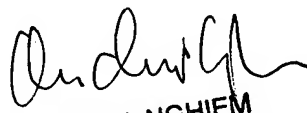
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JL

John H. Le

Patent Examiner-Group 2863

July 20, 2005


MICHAEL NGHIEM
PRIMARY EXAMINER